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Appellants: Mark G. Reichmann et al. Docket No.: 17,142
Serial No.: 10/734,006 Group: 1794
Confirmation No.: 9434 Examiner: Matthew D. Matzek
Filed: December 10, 2003 Date: August 14, 2008
For: HIGH STRENGTH NONWOVEN WEB FROM A BIODEGRADABLE ALIPHATIC POLYESTER

Appeal Brief Transmittal Letter

Mail Stop Appeal Brief - Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. 41.37, transmitted herewith is an Appeal Brief pursuant to the Notice of Appeal which was mailed on May 12, 2008.

Please charge the \$510.00 fee (fee code 1402), pursuant to 37 C.F.R. 41.20(b)(2), which is due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

Respectfully submitted,

MARK G. REICHMANN ET AL.

By: Alyssa A. Dudkowsky
Alyssa A. Dudkowsky
Registration No.: 40,596

CERTIFICATE OF TRANSMISSION

I, Mary L. Merchant, hereby certify that on August 14, 2008 this document is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300.

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Mary L. Merchant

Signature:

Mary L. Merchant

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PAGE 2/15 * RCVD AT 8/14/2008 2:58:10 PM [Eastern Daylight Time] * SVR:USPTO-EXRF-5/38 * DNIS:2738300 * CSID:9207213129 * DURATION (mm:ss):02:24

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Brief on Appeal to the Board of Patent Appeals and Interferences

Mail Stop Appeal Brief - Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. 41.37 Appellants respectfully submit this Brief in support of their Appeal of Examiner Matzek's Final Rejection of claims 1-5 and 10-28 which was mailed on February 11, 2008.

On May 12, 2008, Appellants, pursuant to 37 C.F.R. 41.31 mailed a timely Notice of Appeal. The Notice of Appeal was received by the Patent Office on May 19, 2008. Thus, the time period for filing this Brief ends on July 19, 2008. Therefore, concurrent with the filing of this Brief, Appellants hereby submit a Petition For One-Month Extension of Time..

Real Party in Interest

The present Application has been assigned to the Kimberly-Clark Worldwide, Inc.

Related Appeals and Interferences

There are no known related appeals or interferences.

Status of the Claims

Claims 1-5 and 10-28 remain in the application with claims 1-5 and 10-28 being finally rejected. No claims have been withdrawn but claims 6-9 have been cancelled.

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Status of Amendments Filed Subsequent to Final Rejection

No Amendment After Final Rejection has been submitted.

Summary of the Invention For Each Independent Claim

The following concise explanation of the subject matter defined in each of the independent claims involved in the appeal refers to the page and line numbers of the Specification and the Figures filed on December 10, 2003.

Independent claim 1 of the present invention is directed to a biodegradable nonwoven web prepared from a polymer blend comprising from about 65% by weight to about 99% by weight of a biodegradable aliphatic polyester polymer (see, for example, page 2, lines 24-27 of the Specification) and from about 1% by weight to about 35% by weight of a second polymer (see, for example, page 2, line 28 of the Specification) which is amorphous (see, for example, page 7, lines 32-33 of the Specification) and is selected from the group consisting of a polymer having a lower melting point than the aliphatic polyester polymer, a polymer having a lower molecular weight than the aliphatic polyester polymer and mixtures thereof and wherein the second polymer comprises a polyalphaolefin (see, for example, page 2, lines 29-31 of the Specification).

Independent claim 25 of the present invention is directed to a method of increasing the tear strength of a biodegradable nonwoven web prepared from a biodegradable aliphatic polyester polymer (see, for example, page 3, lines 11-12 of the Specification), said method comprising the steps of forming a blend of a biodegradable aliphatic polyester polymer and a polymer which is amorphous and is selected from the group consisting of a polymer having a lower melting point than the biodegradable aliphatic polyester polymer (see, for example, page 3, lines 13-15 of the Specification), a polymer having a lower molecular weight than the biodegradable aliphatic polyester polymer and mixtures thereof (see, for example, page 3, lines 15-16 of the Specification) and wherein the second polymer comprises a polyalphaolefin; forming a nonwoven web from the blend; and bonding the nonwoven web (see, for example, page 3, lines 16-17 of the Specification).

Independent claim 26 of the present invention is directed to a fiber from a polymer blend comprising from about 65% by weight to about 99% by weight of a biodegradable aliphatic polyester polymer (see, for example, page 3, lines 3-5 of the Specification) and from about 1% by weight to about 35% by

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weight (see, for example, page 3, line 6 of the Specification) of a second polymer which is amorphous (see, for example, page 7, line 33 of the Specification) and is selected from the group consisting of a polymer having a lower melting point than the aliphatic polyester polymer, a polymer having a lower molecular weight than the aliphatic polyester polymer and mixtures thereof and wherein the second polymer comprises a polyalphaolefin (see, for example, page 3, lines 7-10 of the Specification).

Statement of Each Ground of Rejection To Be Reviewed on Appeal

Ground 1

Claims 1-3 and 10-28 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,174,602 to Matsui et al. (hereinafter "the Matsui patent"), in view of U.S. Publication No. 2002/0111596 A1 to Fletcher et al. (hereinafter "the Fletcher publication").

Ground 2

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) over the Matsui patent in view of the Fletcher publication as applied to claim 1 in Ground 1, and further in view of U.S. Patent No. 6,506,873 to Ryan et al. (hereinafter "the Ryan patent").

Arguments for Reversal

The claims on appeal

Claims 1-5 and 10-28 are on appeal, and are set forth herein by a Claims Appendix.

Prior art relied on by the Examiner

In the Final Rejection, the Examiner has relied on the following art:

- U.S. Patent No. 6,174,602 to Matsui et al.
- U.S. Patent No. 6,506,873 to Ryan et al.
- U.S. Patent Publication No. 2002/0111596 A1 to Fletcher et al.

Ground 1 - Claims 1-3 and 10-28 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,174,602 to Matsui et al. (hereinafter "the Matsui patent"), in view of U.S. Publication No. 2002/0111596 A1 to Fletcher et al. (hereinafter "the Fletcher publication").

In the Office Action dated July 27, 2007, the Examiner explained his belief that the Matsui patent discloses a biodegradable fiber excellent in bulkiness, softness, stretchability and feeling, which

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comprises **A** a low heat-shrinkable fiber component, and **B** a high-heat shrinkable fiber component comprising an aliphatic polyester, which is a mixture of aliphatic polyesters with differing melting points. The Examiner believes the **B** component of the Matsui patent includes at least two aliphatic polyesters **H** and **S**; the difference in melting point between them is at least 20° C. The Examiner believes the soft aliphatic polyester **S** is amorphous. The Examiner also believes the hard aliphatic polyester **H** may comprise 90-10 weight percent of the **B** polymeric composition and the soft aliphatic polyester **S** may comprise 10-90 weight percent of **B**. Further, the Examiner believes the invention of the Matsui patent may be used to produce a nonwoven fabric. The Examiner believes L-lactide is used as the aliphatic polyester, and the nonwoven web of the Matsui patent may be a spunbound nonwoven web. The Examiner believes Figures 1C and 1G of the Matsui patent illustrate multi-component embodiments wherein at least a portion of an outer surface of the multi-component fibers comprises the polymer blend. The Examiner also believes the invention of the Matsui patent may be used in a number of different articles such as undergarments, clothing, etc., and may be used in such articles because the applied invention possesses the claimed structure. Further, the Examiner believes the invention of the Matsui patent may be in either staple fiber or continuous filament form. The Examiner acknowledges that the Matsui patent does not disclose the second polymer of the blend being a poly-alphaolefin. The Examiner believes the Matsui patent discloses use of poly-caprolactone. With respect to the Fletcher publication, the Examiner believes the Fletcher publication discloses material suitable for a flushable absorbent assembly and the use of amorphous poly-alphaolefin or a poly-caprolactone. The Examiner believes amorphous poly-alphaolefin and poly-caprolactone were art-recognized equivalents at the time the invention was made and that one of ordinary skill in the art would have found it obvious to substitute the poly-caprolactone taught by the Matsui patent for poly-alphaolefin.

In the Final Office Action mailed February 11, 2008, the Examiner provides that it would have been obvious to substitute the poly-caprolactone taught by the Matsui patent for poly-alphaolefin because both are directed to biodegradable products. The Examiner also provides that he has relied upon the Fletcher publication to establish that in the field of bio-degradable articles, poly-alphaolefin and poly-caprolactone are art-recognized equivalents and as such it would have been obvious to have used them interchangeably.

In order for the Office to show a *prima facie* case of obviousness, M.P.E.P. §2142 requires a clear articulation of the reasons why the claimed invention would have been obvious. Specifically, the Supreme Court in KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the burden lies initially with the Office to provide an explicit analysis supporting a rejection under 35 U.S.C. 103. "[R]ejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

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The Court in KSR International further identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in Graham v. John Deere Co. (383 U.S. 1, 148 USPQ 459 (1966)). Specifically, as previously required by the TSM (teaching, suggestion, motivation) approach to obviousness, one exemplary rationale indicated requires some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. Specifically, to reject a claim based on this rationale, the Office must articulate the following: (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to arrive at each and every limitation of the claimed invention; (2) a finding that there was reasonable expectation of success; and (3) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

Appellants submit that the Examiner has failed to make out a prima facie case of obviousness because the combination of the Matsui patent and the Fletcher publication would not lead one of ordinary skill in the art to arrive at each and every limitation of the claimed invention. Appellants submit that the Fletcher publication relates to a pant-like absorbent garment having removable side panels that are releasable and refastenable. The removable side panels can be reused with a disposable chassis portion of the garment. The chassis portion may include an absorbent assembly for absorbing and retaining liquids (see, paragraph [0073] of the Fletcher publication). The absorbent assembly can include a water-dispersible material such as a water-dispersible polyethylene-oxide resin (see, paragraph [0078] of the Fletcher publication). The poly-ethylene-oxide material can be coated on one side with a thin, weak layer of a barrier material, such as an amorphous poly-alphaolefin or a poly-caprolactone. (Id.)

The Examiner believes that if two polymers can be used interchangeably for one purpose that they are then interchangeable for all purposes. Specifically, the Examiner believes that if poly-alphaolefin and poly-caprolactone are disclosed to both be usable as a coating material to provide barrier properties then they are also interchangeable for the different purpose of acting as an aliphatic polyester component of a degradable fiber. The Examiner inappropriately relies on the Fletcher publication to equate two polymers for use as a component of a degradable fiber when those polymers are disclosed for an unrelated use in the Fletcher publication. Therefore, one of ordinary skill in the art would not have looked at the Fletcher publication to find two polymers being equivalent for use in a degradable fiber.

Therefore, Appellants respectfully request that the rejection of claims 1-3 and 10-28 be reversed.

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Ground 2 – Rejection of claims 4 and 5 under 35 U.S.C. §103(a) over the Matsui patent in view of the Fletcher publication as applied to claim 1 in Ground 1, and further in view of U.S. Patent No. 6,506,873 to Ryan et al. (hereinafter “the Ryan patent”).

In the Office Action mailed July 27, 2007, the Examiner provided his belief that the Matsui patent discloses the use of lactides, which comprise isomers, but the Examiner acknowledged that the Matsui patent fails to teach the type of lactide and the quantity of the lactide. The Examiner believes the Ryan patent discloses a nonwoven fibrous material, which includes a plurality of polylactide containing fibers (citing the Abstract and Col. 1, lines 16-17 of the Ryan patent). The Examiner also believes the Ryan patent discloses that the nonwoven can have utility in medical, hygiene, disposable and durable nonwoven applications where biodegradability can advantageously be combined with a fabric or laminate function. Further, the Examiner believes the Ryan patent discloses that some applications are diapers, training pants, and feminine absorbent articles, among others (citing Col. 3, lines 28-38 of the Ryan patent). The Examiner believes the Ryan patent discloses that the preferred fibers include at least one component, polylactide or polylactic acid (PLA). Additionally, the Examiner believes the Ryan patent teaches multi-component fibers that include at least one component based upon polylactide and at least one additional component, which may be based upon polylactide or upon a material other than polylactide (citing Col. 3, lines 56-67 through Col. 4, lines 1-3 of the Ryan patent). The Examiner believes the Ryan patent discloses that preferred meltstable polylactide compositions preferably include a D-lactide concentration of less than about 5% by weight (citing Col. 16, lines 36-54 of the Ryan patent). The Examiner also believes the Ryan patent discloses that other components in a multi-component fiber can include polyolefins, polyamides, aromatic/aliphatic polyesters, biodegradable aliphatic polyesters and biodegradable aliphatic-aromatic polyesters (citing Col. 10, lines 53-67 of the Ryan patent). Additionally, the Examiner believes the Ryan patent discloses the use of polycaprolactone (PCL), polyhydroxy propionate (or buatylate, capreolate or valerate), among others (citing Col. 11, lines 47-57 of the Ryan patent). Further, the Examiner believes the Ryan patent discloses fiber formation processes including melt spinning, melt blowing and spunbonding (citing Col. 12, line 2 & Col. 27, lines 1-2 of the Ryan patent) and carding (citing Col. 26, lines 50-52 of the Ryan patent).

The Examiner believes that since the Matsui patent and the Ryan patent are from the same field of endeavor (i.e. degradable aliphatic polyester fibers), the purpose disclosed by the Ryan patent would have been recognized in the pertinent art of the Matsui patent. The Examiner believes it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of the Matsui patent with the motivation of minimizing the D-lactide level to improve the polymer's ability to crystallize as disclosed by the Ryan patent.

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In the Final Office Action mailed February 11, 2008, the Examiner submits that he has relied upon the Fletcher publication to modify the Matsui patent by establishing that it is well known in the art to substitute the poly-caprolactone taught by the Matsui patent for poly-alphaolefin in fibrous form. The Examiner also provides that he has relied upon the Ryan patent to modify the Matsui patent with the motivation of minimizing the D-lactide level to improve the polymer's ability to crystallize (citing Col. 16, lines 36-54 of the Ryan patent). The Examiner states that he is not attempting to modify either the Fletcher publication or the Ryan patent with the other.

Appellants submit that dependent claims 4 and 5 are patentable over the Matsui patent in view of the Fletcher publication and further in view of the Ryan patent at least for depending from independent claim 1. Based on the arguments already made herein concerning the patentability of independent claim 1, Appellants submit that the rejection of claims 4 and 5 should be reversed.

Conclusion

For the reasons stated above, it is Appellants' position that the Examiner's rejection of claims has been shown to be improper and should be **reversed** by the Board.

Please charge the \$500.00 fee (fee code 1402), pursuant to 37 C.F.R. 41.20(b)(2), for filing this Appeal Brief to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875. Any additional prosecutorial fees which are due may also be charged to deposit account number 11-0875.

The undersigned may be reached at: (920) 721-2433.

Respectfully submitted,

MARK G. REICHMANN ET AL.

By:

Alyssa A. Dudkowsky
Alyssa A. Dudkowsky
Registration No.: 40,596

CERTIFICATE OF TRANSMISSION

I, Mary L. Marchant, hereby certify that on August 14, 2008 this document is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300.

Mary L. Marchant
Mary L. Marchant

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Claims Appendix

The claims on appeal are:

1. (Previously Presented) A biodegradable nonwoven web prepared from a polymer blend comprising from about 65% by weight to about 99% by weight of a biodegradable aliphatic polyester polymer and from about 1% by weight to about 35% by weight of a second polymer which is amorphous and is selected from the group consisting of a polymer having a lower melting point than the aliphatic polyester polymer, a polymer having a lower molecular weight than the aliphatic polyester polymer and mixtures thereof and wherein the second polymer comprises a polyalphaolefin.
2. (Previously Presented) The biodegradable nonwoven web of claim 1, wherein the aliphatic polyester comprises at least one polymer selected from polyhydroxy butyrate (PHP), polyhydroxy butyrate-co-valerate (PHBV), polycaprolactane, polybutylene succinate, polybutylene succinate-co-adipate, polyglycolic acid (PGA), polylactide or polylactic acid (PLA), polybutylene oxalate, polyethylene adipate, polyparadioxanone, polymorpholineviones, or polydioxipane-2-one.
3. (Original) The biodegradable nonwoven web of claim 2, wherein the aliphatic polyester comprises a polylactide.
4. (Original) The biodegradable nonwoven web of claim 3, wherein the polylactide comprises a poly(L-lactide) having a D-isomer, if present, in an amount less than 3%.
5. (Original) The biodegradable nonwoven web of claim 4 wherein the polylactide comprises a poly(L-lactide) having a D-isomer, if present, in an amount less than 2%.
6. (Canceled)
7. (Canceled)
8. (Canceled)

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9. (Canceled)

10. (Original) The biodegradable nonwoven web of claim 1, wherein the nonwoven web is a meltblown nonwoven web, a spunbond nonwoven web, a bonded carded web or an airlaid nonwoven web.

11. (Original) The biodegradable nonwoven web of claim 10, wherein the nonwoven web is a spunbond nonwoven web.

12. (Original) The biodegradable nonwoven web of claim 1, wherein the nonwoven web comprises multicomponent fibers, wherein at least a portion of an outer surface of the multicomponent fibers comprises the polymer blend.

13. (Previously Presented) The biodegradable nonwoven web of claim 1, wherein the nonwoven web is a spunbond nonwoven web, the biodegradable polymer comprises a polylactide having a D-lactide isomer content less than about 3% by weight, based on the weight of the polylactide, and the blend comprises from about 85 -98 % by weight of the polylactide and from about 2-15 % by weight of the second polymer.

14. (Previously Presented) The biodegradable nonwoven web of claim 1, wherein the nonwoven web is a spunbond nonwoven web, the biodegradable polymer comprises a polylactide having less than about 3% by weight of a D-lactide isomer and the blend comprises from about 65-75 % by weight of the polylactide and from about 25-35 % by weight of the second polymer.

15. (Original) A personal care product comprising the nonwoven web of claim 1 as a component of the product.

16. (Original) The personal care product of claim 15, wherein the personal care product is a diaper.

17. (Original) The personal care product of claim 15, wherein the personal care product is a feminine hygiene pad.

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18. (Original) The personal care product of claim 15, wherein the personal care product is a training pant.
19. (Original) A medical garment comprising the nonwoven web of claim 1.
20. (Original) The medical garment of claim 19, wherein the medical garment is a gown.
21. (Original) The medical garment of claim 19, wherein the medical garment is a face mask.
22. (Original) A sterile wrap comprising the nonwoven web of claim 1.
23. (Original) A wiper comprising the nonwoven web of claim 1.
24. (Original) A filter comprising the nonwoven web of claim 1.
25. (Previously Presented) A method of increasing the tear strength of a biodegradable nonwoven web prepared from a biodegradable aliphatic polyester polymer, said method comprising the steps of forming a blend of a biodegradable aliphatic polyester polymer and a polymer which is amorphous and is selected from the group consisting of a polymer having a lower melting point than the biodegradable aliphatic polyester polymer, a polymer having a lower molecular weight than the biodegradable aliphatic polyester polymer and mixtures thereof and wherein the second polymer comprises a polyalphaolefin; forming a nonwoven web from the blend; and bonding the nonwoven web.
26. (Previously Presented) A fiber from a polymer blend comprising from about 65% by weight to about 99% by weight of a biodegradable aliphatic polyester polymer and from about 1% by weight to about 35% by weight of a second polymer which is amorphous and is selected from the group consisting of a polymer having a lower melting point than the aliphatic polyester polymer, a polymer having a lower molecular weight than the aliphatic polyester polymer and mixtures thereof and wherein the second polymer comprises a polyalphaolefin.

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27. (Original) The fiber of claim 26, wherein the fibers is a staple fiber.
28. (Original) The fiber of claim 26, wherein the fiber is a substantially continuous filament.

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Evidence Appendix

No evidence is submitted in conjunction with this Appeal.

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Related Proceedings Appendix

There are no known related proceedings in connection with this Appeal.